

tmux: Terminal Multiplexer



Tom Ryder

tom@sanctum.geek.nz

<https://sanctum.geek.nz/>

What is tmux?

- tmux is a *terminal multiplexer*.
- Runs in the TTY, or your favourite terminal emulator
- Start any number of virtual terminals within it
- Arrange terminals in any way you like
- And most importantly: **Attach/detach without interrupting running programs**
- Extremely useful for sysadmin work where X is unavailable, and many other things

Simple use case

- You SSH in to your faraway server.
- You start a process interactively, that you think will only take a few minutes...
 - ...but it takes ages!
 - ...and you forgot to redirect the output to a file!
 - ...and interrupting the process will break things!
 - ...and your laptop is running out of battery!
- What to do?

Simple use case

- The shell way: **Bash**:

```
$ long-running-job  
[Ctrl-Z] to suspend  
$ bg  
$ disown  
$ logout
```

Still works, and useful to remember in a pinch!

- Lets the process complete safely, *but...*
- ...you lose all the output, and you can't (easily) "adopt" the process again.
- Your job has a *dependency* on your SSH connection.
- If only we could fix that...

Simple use case

- The multiplexer way: **tmux**:
\$ tmux
\$ long-running-job
 [Ctrl-B, d] to *detach*
\$ logout
- And then later:
\$ ssh yourhost
\$ tmux attach
- And your job's output is sitting there, like you never left.

Another use case

- You run a program like Mutt on a server to read and write mail
- Your connection is flaky
- Every time your SSH connection cuts, you completely lose the message you were writing, or your place in the mail queue
- Run it all in tmux on the server, and the problem goes away

Demonstration

- tmux 2.5 on a Debian GNU/Linux “Stretch” server, accessed via SSH
- Features:
 - Create, attach, detach, destroy
 - Windows
 - Panes
 - Scrolling
 - Copying, pasting

Is tmux a new or unique idea?

- Not even a little! GNU Screen was released in 1987
 - And does all the same important basic functions
- tmux was written because the original author, Nic Marriott, was dissatisfied with limitations of GNU Screen
- If all you want is the attach/detach logic for one single terminal, there's a tiny program called dtach that you might prefer: <http://dtach.sourceforge.net/>
- The code for tmux is in C, and really high quality
 - Even Theo de Raadt of OpenBSD fame liked it

Questions?

- Tmux website/source:
<https://github.com/tmux/tmux/wiki>
- A tmux Crash Course:
<https://robots.thoughtbot.com/a-tmux-crash-course>